CLEAN VERSION OF AMENDMENTS

IN THE SPECIFICATION

Please accept the following specification paragraphs in re-written "clean form".

The following paragraph replaces the 1st paragraph on page 5:

The asymmetric supercapacitor has improved energy density by electrically coupling a positive electrode of high faradaic capacity such as one comprising manganese dioxide (MnO_2) with a negative electrode that stores charge through charge separation at the electric double-layer such as one comprising carbon. The asymmetric supercapacitor also improves power density by using high surface area nanostructured electrode materials.

The following paragraph replaces the last paragraph on page 5 continuing on page 6:

An asymmetric supercapacitor comprises a positive electrode comprising a current collector and an active material selected from the group consisting of manganese dioxide, silver oxide, iron sulfide and mixtures thereof, a negative electrode comprising a carbonaceous active material and optional current collector, an electrolyte, and a separator plate. In a preferred embodiment at least one of the electrodes comprises nanostructured/nanofibrous material and in a more preferred embodiment, both electrodes comprise nanostructured/nanofibrous material. The electrolyte can be liquid or solid although liquid electrolytes are preferred. The asymmetric supercapacitor can be used either in bipolar or monopolar construction.

The following paragraph replaces the 1st paragraph on page 7:

Suitable active materials for the positive electrode include manganese dioxide, silver oxide, iron sulfide or mixtures thereof. Manganese dioxide is preferred. The active material is typically in particulate form, the particles of which have a mean single linear dimension of less than about 100 microns and is preferably nanostructured. The particular form of the active material will depend on the desired performance, cost and other characteristics of the asymmetric supercapacitor. It is contemplated that a wide variety of forms may be used, for example shapes both irregular and regular, such as amorphous, fibrous, spheroidal, rhomboidal and the like, bird's nest and the other forms described in U.S. Application Serial No. 08/971,817, now U.S. Patent No. 6,162,530, as well as nanorods disclosed in U.S. Patent No. 6,036,774 which is incorporated by reference herein. Synthesis and structure of suitable nanostructured sulfides, oxides and hydroxides is disclosed in U.S. Serial No. 08/971,817, now U.S. Patent No. 6,162,530, and U.S. Serial No. 09/579,874, now U.S. Patent No. 5,713,561, incorporated herein by reference. Nanostructured materials are well suited for use in electrodes because they have extremely high surface activity and high accessible surface area. This is in contrast to other high surface area materials in which much of the surface area is contained in deep micropores and thus is largely non-utilizable in capacitor applications. As used herein a nanostructured material refers to materials having a grain size on the order of 1 to 100 nanometers (where 1 nm = 10 angstroms). Nanostructured materials are thus characterized by having a high fraction of the material's atoms residing at grain or particle boundaries. For example, with a grain size in the five nanometer range, about one-half of the atoms in a nanocrystalline or a nanophase solid reside at grain or particle interfaces.

The following paragraph replaces the 3rd full paragraph on page 8:

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Preferably the electrodes may be formed by thermal spraying onto the current collector. Thermal spray techniques are disclosed in U.S. Application No. 09/485,424, now U.S. Patent No. 5,599,644, which is herein incorporated by reference. A suspension of nanocrystalline particles is subjected to ultrasonication using an intense ultrasonic probe. Ultrasonication disintegrates any powder aggregates and introduces lattice defects into the nanocrystalline particles. These defects can exert an important influence on the performance of nickel hydroxide, for example, when it is used as the active material in a nickel electrode. Parameters, which affect the final product, include ultrasonic power and processing time.